



## Center for Health Statistics



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**DATA  
SUMMARY**  
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Trends in deaths  
and death rates for  
California Baby  
Boomers are  
examined in this  
report.

### Highlights

- **Baby Boomers comprised 27 percent of the total State population during the 1990's.**
- **Death rates increased significantly for Baby Boomers between 1990 and 1999.**
- **The leading causes of death for Baby Boomers during the 1990's were cancer, HIV infection, and unintentional injuries.**
- **Males and African Americans/Blacks experienced the highest mortality rates for Baby Boomers.**
- **A Work Group for *Healthy People 2010* is recommended to focus specifically on health issues related to Baby Boomers.**

## Mortality Trends Among "Baby Boomers" California, 1990-1999

**By Jim Sutocky**

### Background

The "Baby Boomers" are popularly defined as persons who were born between the years 1946 and 1964. According to the California Department of Finance (CDOF), there were 9.2 million Californians (27.1 percent of the total population) who were born between 1946-1964 and were between the ages of 35-53 years in the year 1999 (Table 1a).<sup>1</sup> Population projections indicate that by the year 2050 the Baby Boomer cohort will have declined to only three percent of the California population.<sup>2</sup>

Abridged life table data for California show that Baby Boomers age 55 in 2001 would have a total life expectancy (LE) of 27.2 years and a healthy life expectancy (HLE) of 19.9 years (Table 1b).<sup>3</sup> Female Baby Boomers were expected to have an average of 3.2 more years of LE than their male counterparts at age 55 and 1.9 years more of HLE.

A previous report on trends in deaths and death rates for California's Baby Boomer population during the 1980's indicated that the leading causes of death were unintentional injuries, homicide, and suicide.<sup>4</sup> As this population ages, an epidemiologic transition from intentional and unintentional injuries to chronic diseases as leading causes of death can be anticipated. This shift will lead to additional challenges for public health and the private healthcare system during the first quarter of the new millennium, given the sheer volume the Baby Boomer population represents and their emerging healthcare needs.

This report examines mortality trends for Baby Boomers during the decade of the 1990's, and presents key findings on leading causes of death by gender and by race/ethnicity.

### Methods

#### Data Sources

Numerator data used in this report were extracted from the Death Statistical Master Files maintained by the California Department of Health

Services, Center for Health Statistics. The underlying causes of death reported in the 1990-1998 files are based on *International Classification of Diseases, Ninth Revision* (ICD-9) codes, and for 1999 are based on *International Statistical Classification of Diseases and Related Health Problems, Tenth Revision* (ICD-10) codes.<sup>5-6</sup> The underlying cause of death represents the disease or condition that initiated the train of morbid events leading directly to death.

Denominator data used in the calculation of mortality rates were developed and published by the CDOF Demographic Research Unit.<sup>7</sup>

Table 1a. Baby Boomer Population, California Residents 1990-1999

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total (All Races, Both Sexes)	9,731,780	9,701,046	9,685,325	9,589,061	9,478,407	9,358,837	9,271,255	9,257,903	9,229,364	9,241,698
Male	4,951,993	4,925,993	4,908,192	4,849,363	4,782,837	4,712,221	4,657,958	4,641,062	4,616,449	4,616,221
Female	4,779,787	4,775,053	4,777,133	4,739,698	4,695,570	4,646,616	4,613,297	4,616,841	4,612,915	4,625,477
African American/Black	690,756	662,921	677,824	668,136	656,757	645,130	635,985	631,947	627,036	625,205
American Indian/Alaska Native	64,406	71,200	77,564	83,247	88,288	93,007	97,692	102,765	107,020	111,771
Asian/Pacific Islander	937,801	965,600	991,949	1,013,300	1,030,465	1,042,968	1,065,067	1,092,120	1,118,400	1,148,966
Hispanic/Latino	2,354,541	2,362,012	2,361,721	2,346,383	2,322,410	2,299,351	2,280,687	2,280,243	2,278,405	2,298,507
White	5,684,276	5,639,313	5,576,267	5,477,995	5,380,487	5,278,381	5,191,824	5,150,828	5,098,503	5,057,249

SOURCE: California Department of Finance, Demographic Research Unit, *Race/Ethnic Population with Age and Sex Detail, 1990-1999*.

NOTE: "Baby Boomers" defined as persons aged 26-44 in 1990, 27-45 in 1991, 28-46 in 1992, 29-47 in 1993, 30-48 in 1994, 31-49 in 1995, 32-50 in 1996, 33-51 in 1997, 34-52 in 1998, and 35-53 in 1999.

Table 1b. Life Expectancy (LE) and Healthy Life Expectancy (HLE) for Baby Boomers, California 2001

Age Interval	TOTAL		FEMALE		MALE	
	LE	HLE	LE	HLE	LE	HLE
35-39	45.3	35.1	47.2	36.0	43.2	34.1
40-44	40.6	31.0	42.5	32.0	38.5	30.0
45-49	36.0	27.1	37.8	28.0	34.0	26.1
50-54	31.5	23.4	33.2	24.2	29.7	22.4
55-59	27.2	19.9	28.7	20.8	25.5	18.9

SOURCE: Healthy California 2010: Progress in Achieving the Healthy People 2010 Objectives, 2000-2003. Center for Health Statistics, May 2005; Tables 1-A through 2-C.

## Statistical Methods

Mortality data were tabulated by place of residence, which excludes deaths that occurred for persons who were not residents of California. Baby Boomers were defined by their age at death, which included ages 26-24 for the year 1990, ages 27-45 for 1991, ages 28-46 for 1992, ages 29-47 for 1993, ages 30-48 for 1994, ages 31-49 for 1995, ages 32-50 for 1996, ages 33-51 for 1997, ages 34-52 for 1998, and ages 35-53 for 1999.

Age-specific mortality rates per 100,000 population were calculated for the Baby Boomer population by gender and by race/ethnicity. Rates based on a small number of events and having a relative standard

error equal to or greater than 23 percent ( $RSE \geq 23\%$ ) were considered unreliable and are not shown in the data tables.

A linear regression procedure was used to test the statistical significance of trends in mortality rates over the time period 1990 through 1999. If the 95 percent confidence interval of the slope of a linear equation fitted to the data by the least squares method did not include the value zero, then the null hypothesis was rejected at the .05 level of significance ( $p \leq .05$ ) and the trend was considered statistically significant.<sup>8</sup> Another procedure was used to test the significance of the difference between independent death rates for males and females, and for the five major racial and ethnic populations.<sup>9</sup> A binomial approximation formula was used to calculate the 95 percent confidence interval of the difference between two independent rates, and if it did not include the value zero, then the difference between the two rates was considered statistically significant at the .05 level.

### **Data Limitations and Qualifications**

Limitations and qualifications of mortality data are related to errors in the registration and reporting processes, and are examined in detail elsewhere.<sup>10-11</sup> Suffice it to say that death rates are sensitive to variations in both the numerator (the number of deaths) and denominator (population at risk), and are subject to errors that often lead to erroneous interpretations.

Rankings of leading causes of death follow a methodology developed by the National Center for Health Statistics (NCHS), and depends largely on how underlying causes of death are grouped.<sup>12-13</sup> For example, unintentional injury was the leading cause of death for Baby Boomers during the 1980-1989 period when all injuries, accidents, and adverse effects are subsumed into one rankable cause of death category (defined by ICD-9 codes 800-949).<sup>14</sup> However, if the different types of injuries were counted as separate categories (e.g., motor vehicle traffic accidents (codes 810-819), accidental poisonings by drugs (codes 850-858), misadventures to patients during surgical and medical care (codes 870-876), etc.), then their relative rankings as leading causes of death would be much lower.

The ICD-10 was implemented in 1999, resulting in substantial breaks in comparability for a number of causes of death.<sup>6</sup> Therefore, comparability-modified numbers for each leading cause of death category were calculated for the 1999 data using ratios developed by the NCHS.<sup>15-16</sup>

Mortality rates per 100,000 population presented in this report are “age-specific” rates, not to be confused with “age-adjusted” death rates.<sup>17</sup> While age-adjusted rates are based on a hypothetical “standard” population and provide useful relative comparisons for populations across space and time or between race/ethnic groups, age-specific rates for Baby Boomers by gender and by race/ethnicity provide an absolute measurement as well as a useful tool for statistical comparisons and trend analyses.

## **Results**

The number of deaths for California’s Baby Boomers increased overall from 18,292 in 1990 to 23,284 in 1999, an increase of 27 percent (Table 2), and their population decreased by only five percent (Table 1a). Age-specific death rates increased significantly from 188.0 per 100,000 in 1990 to 251.9 per 100,000 in 1999. By comparison, the average annual death rate for Baby Boomers during the 1980’s was 151.6 per 100,000 population.

Overall trends show statistically significant increases in death rates for both male and female Baby Boomers between 1990 and 1999. Age-specific death rates for male Baby Boomers were more than

two times greater than rates for female Baby Boomers during the decade of the 1990's, but the male:female disparity in age-specific death rates declined from 2.8 in 1990 to 1.8 in 1999 (Figure 2a). Between 1995 and 1997 there was a significant decline in male Baby Boomer death rates from 348.5 per 100,000 to 296.7 per 100,000. Male Baby Boomer death rates began to increase again and reached a level of 320.6 per 100,000 by 1999. During this same time period, female Baby Boomer death rates continued to increase from 142.1 per 100,000 in 1995 to 183.5 per 100,000 in 1999.

Death rates for African American/Black Baby Boomers were significantly higher than rates for all other racial and ethnic groups, and increased significantly from 369.9 per 100,000 in 1990 to 501.3 per 100,000 in 1999 (Figure 2b). The next highest death rates were observed for White Baby Boomers, which increased significantly from 196.4 per 100,000 in 1990 to 275.3 per 100,000 in 1999. The lowest death rates were observed for Asian/Pacific Islander Baby Boomers, which also showed a significant increase from 77.1 per 100,000 in 1990 to 131.2 per 100,000 in 1999.

Table 2. Baby Boomer Deaths and Death Rates, California 1990-1999

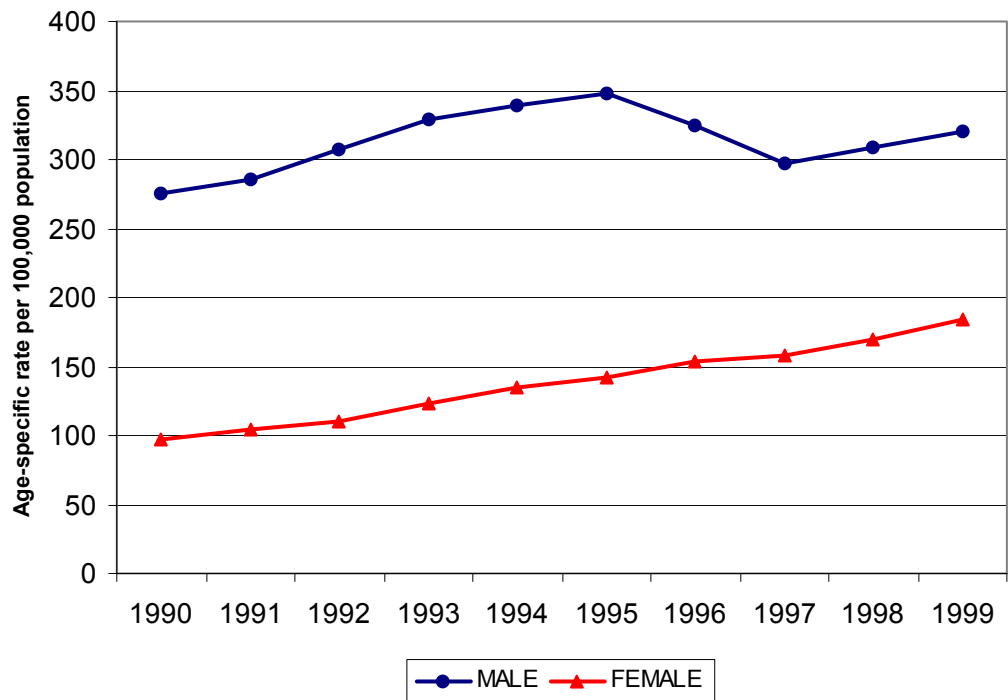
	1990		1991		1992		1993		1994	
	Deaths	Rate <sup>1</sup>	Deaths	Rate <sup>1</sup>	Deaths	Rate <sup>1</sup>	Deaths	Rate <sup>1</sup>	Deaths	Rate <sup>1</sup>
Total (All Races, Both Sexes)	18,292	188.0	19,018	196.0	20,382	210.4	21,766	227.0	22,586	238.3
Male	13,624	275.1	14,038	285.0	15,087	307.4	15,956	329.0	16,252	339.8
Female	4,668	97.7	4,980	104.3	5,295	110.8	5,810	122.6	6,334	134.9
African American/Black	2,555	369.9	2,787	420.4	3,033	447.5	3,230	483.4	3,363	512.1
American Indian/Alaska Native	98	152.2	94	132.0	102	131.5	126	151.4	116	131.4
Asian/Pacific Islander	723	77.1	860	89.1	880	88.7	1,004	99.1	1,057	102.6
Hispanic/Latino	3,750	159.3	3,703	156.8	4,182	177.1	4,373	186.4	4,417	190.2
White	11,166	196.4	11,574	205.2	12,185	218.5	13,033	237.9	13,633	253.4

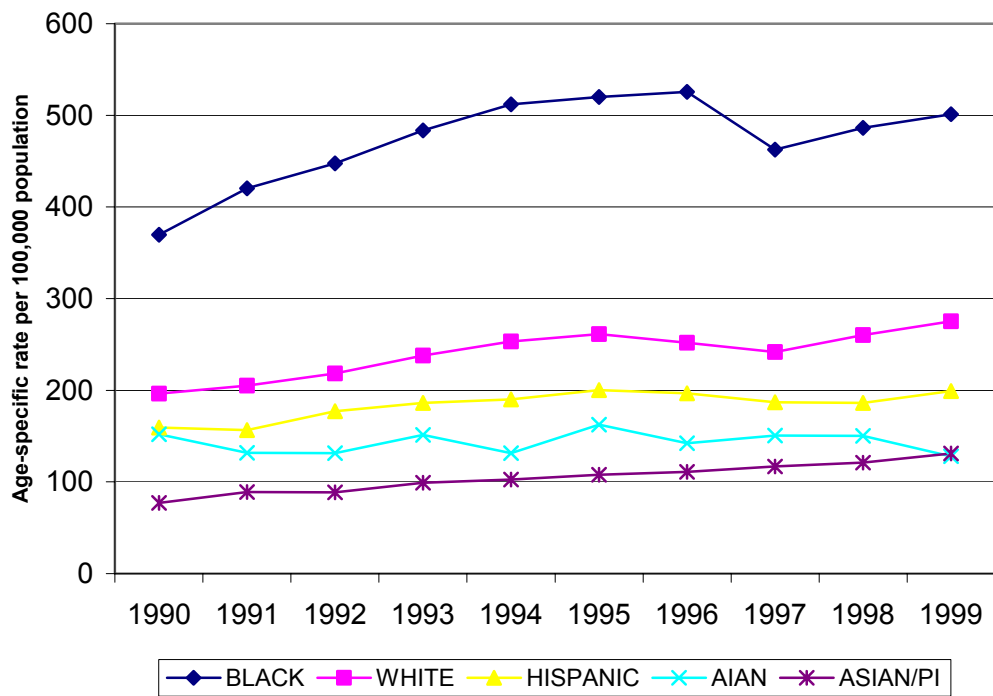
	1995		1996		1997		1998		1999	
	Deaths	Rate <sup>1</sup>	Deaths	Rate <sup>1</sup>	Deaths	Rate <sup>1</sup>	Deaths	Rate <sup>1</sup>	Deaths	Rate <sup>1</sup>
Total (All Races, Both Sexes)	23,029	246.1	22,220	239.7	21,061	227.5	22,082	239.3	23,284	251.9
Male	16,424	348.5	15,116	324.5	13,771	296.7	14,278	309.3	14,798	320.6
Female	6,605	142.1	7,104	154.0	7,290	157.9	7,804	169.2	8,486	183.5
African American/Black	3,355	520.1	3,344	525.8	2,922	462.4	3,049	486.3	3,134	501.3
American Indian/Alaska Native	151	162.4	139	142.3	155	150.8	161	150.4	143	127.9
Asian/Pacific Islander	1,125	107.9	1,181	110.9	1,274	116.7	1,356	121.2	1,507	131.2
Hispanic/Latino	4,603	200.2	4,486	196.7	4,264	187.0	4,247	186.4	4,577	199.1
White	13,795	261.3	13,070	251.7	12,446	241.6	13,269	260.3	13,923	275.3

SOURCES: California Department of Health Services, Center for Health Statistics, Death Statistical Master Files, 1990-1999;  
California Department of Finance, Demographic Research Unit, *Race/Ethnic Population with Age and Sex Detail, 1990-1999*.

**Figure 2a. Baby Boomer Death Rates, By Sex  
California 1990-1999**



**Figure 2b. Baby Boomer Death Rates, By Race/Ethnicity  
California 1990-1999**



Sources: California Department of Health Services, Death Statistical Master Files;  
California Department of Finance, *Race/Ethnic Population with Age and Sex  
Detail, 1990-1999*.

## **Leading Causes of Death**

Ten-year total numbers of deaths ranked in descending order by leading cause of death are shown in Table 3, and the percent distribution of the ten leading causes of death for Baby Boomers is shown in Figure 3.

Malignant neoplasms (cancers) emerged as the leading cause of death for Baby Boomers during the 1990's, accounting for a total of nearly 20 percent of all deaths. During the decade of the 1980's, malignant neoplasms were ranked as the fourth leading cause of death for Baby Boomers, and accounted for only 11 percent of all deaths for this cohort.<sup>4</sup>

Human immunodeficiency virus (HIV) infection emerged as the second leading cause of death during the 1990's, accounting for 15.1 percent of all deaths for Baby Boomers. HIV infection was not explicitly coded by ICD-9 prior to 1987, so a direct comparison to the 1980-1989 Baby Boomer data cannot be made.

Unintentional injuries were the third leading cause of death for Baby Boomers during the 1990's, accounting for 14.9 percent of all deaths. By comparison, unintentional injuries were the number one leading cause of death for Baby Boomers during the 1980's, accounting for 31.6 percent of all deaths during that period.

Diseases of the heart accounted for 12.3 percent of all deaths for Baby Boomers during the 1990's, and ranked as the fourth leading cause of death. "Diseases of the heart" represent a subset of the group cause "diseases of the circulatory system" presented in the 1980-1989 data, and are not directly comparable. Homicide and suicide collectively accounted for 11.7 percent of all deaths for Baby Boomers during the 1990's, compared with 24.3 percent of all deaths occurring for this cohort during the 1980's.

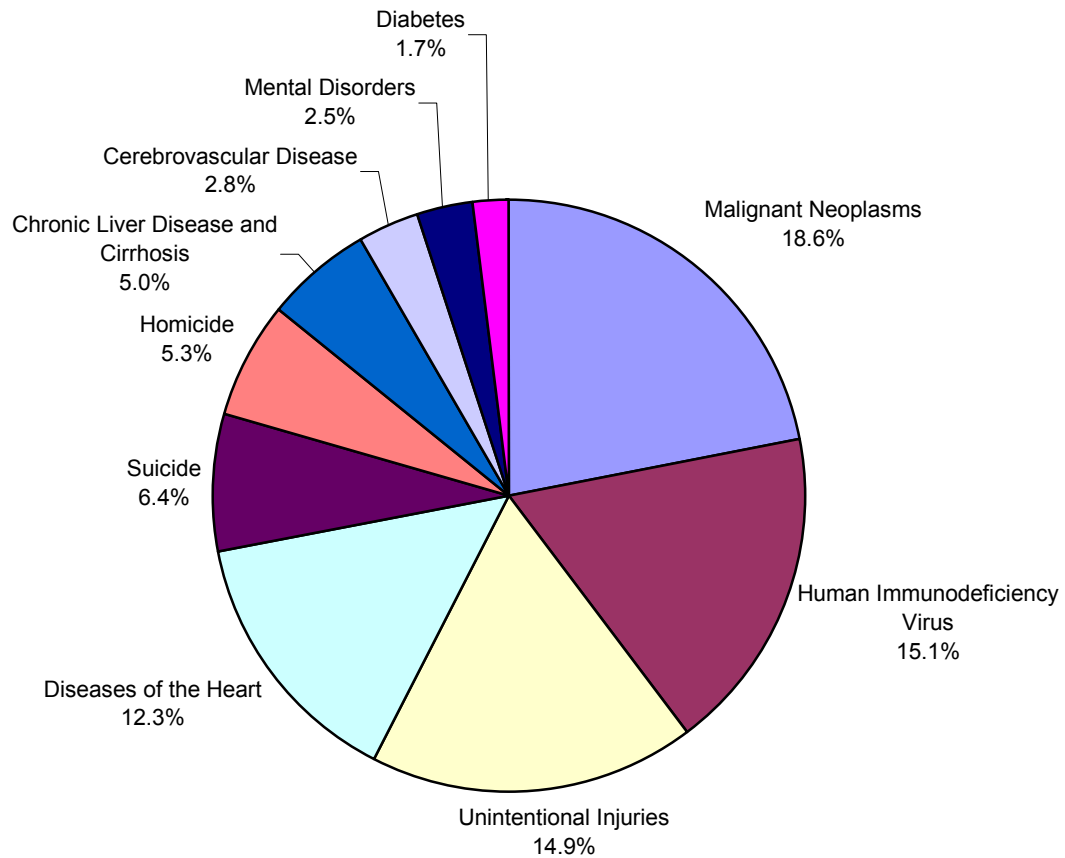
Table 3. Ten Leading Causes of Death Among Baby Boomers, California 1990-1999

Cause of Death	ICD-9 Codes (1990-1998)	ICD-10 Codes (1999)	Deaths <sup>1</sup>	Percent
Malignant Neoplasms	140-208	C00-C97	39,773	18.6%
Human Immunodeficiency Virus	042-044	B20-B24	32,331	15.1%
Unintentional Injuries	E800-E949	V01-X59, Y85-Y86	31,805	14.9%
Diseases of the Heart	390-398, 402, 404, 410-429	I00-I09, I11, I13, I20-I51	26,252	12.3%
Suicide	950-959	U03, X60-X84, Y87.0	13,587	6.4%
Homicide	960-969	U01-U02, X85-Y09, Y87.1	11,261	5.3%
Chronic Liver Disease and Cirrhosis	571	K70, K73-K74	10,783	5.0%
Cerebrovascular Disease	430-438	I60-I69	6,022	2.8%
Mental Disorders	290-319	F00-F99	5,447	2.5%
Diabetes	250	E10-E14	3,730	1.7%
All Baby Boomer Deaths	001-999	A00-Z99	213,720	100.0%

SOURCE: California Department of Health Services, Center for Health Statistics, Death Statistical Master Files.

NOTES: <sup>1</sup> Number of deaths per ICD-9 for 1990-1998; ICD-10 comparability-adjusted number of deaths for 1999.

**Figure 3. Ten Leading Causes of Death Among Baby Boomers  
California, 1990-1999**



Source: California Department of Health Services, Death Statistical Master Files.

## **Leading Causes of Death, by Sex**

Deaths among Baby Boomers by gender show substantial differences in the relative rankings by cause of death (Table 4, Figures 4a and 4b). The leading cause of death for male Baby Boomers during the 1990's was HIV (n=30,382; 20.3 percent), and the leading cause for females was malignant neoplasms (n=21,518; 33.4 percent). The second and third leading causes were the same for both males and females: unintentional injuries and diseases of the heart. By comparison, during the 1980's the leading causes of death for male Baby Boomers were unintentional injuries, homicide, and suicide, and for females they were unintentional injuries, malignant neoplasms, and diseases of the circulatory system.

Table 4. Ten Leading Causes of Death Among Baby Boomers by Sex, California 1990-1999

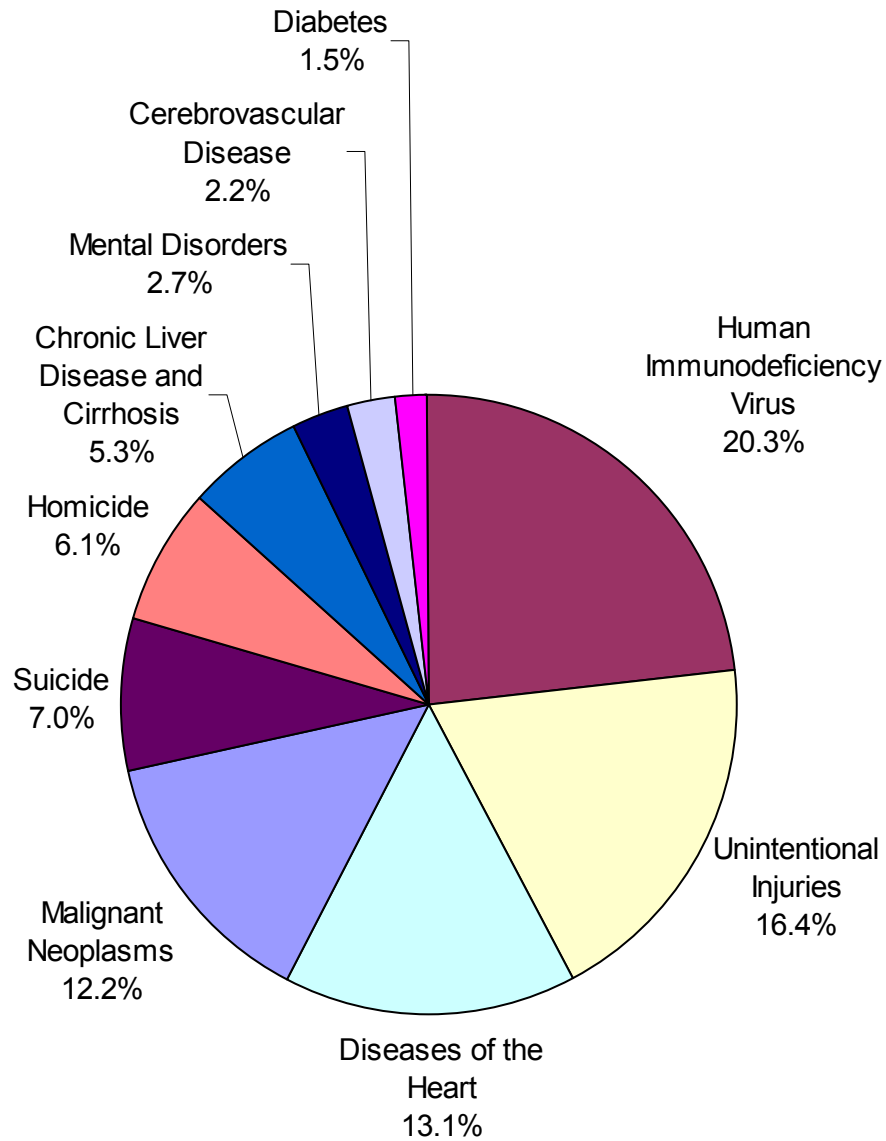
Cause of Death	Male			Female		
	Deaths <sup>1</sup>	Percent	Rank	Deaths <sup>1</sup>	Percent	Rank
Malignant Neoplasms	18,255	12.2%	4	21,518	33.4%	1
Human Immunodeficiency Virus	30,382	20.3%	1	1,948	3.0%	8
Unintentional Injuries	24,449	16.4%	2	7,356	11.4%	2
Diseases of the Heart	19,511	13.1%	3	6,741	10.5%	3
Suicide	10,461	7.0%	5	3,125	4.9%	4
Homicide	9,075	6.1%	6	2,186	3.4%	7
Chronic Liver Disease and Cirrhosis	7,879	5.3%	7	2,904	4.5%	5
Cerebrovascular Disease	3,241	2.2%	9	2,780	4.3%	6
Mental Disorders	4,103	2.7%	8	1,344	2.1%	10
Diabetes	2,185	1.5%	10	1,545	2.4%	9
All Baby Boomer Deaths	149,344	100.0%		64,376	100.0%	

SOURCE: California Department of Health Services, Center for Health Statistics, Death Statistical Master Files.

NOTES: <sup>1</sup> Number of deaths per ICD-9 for 1990-1998; ICD-10 comparability-adjusted number of deaths for 1999.

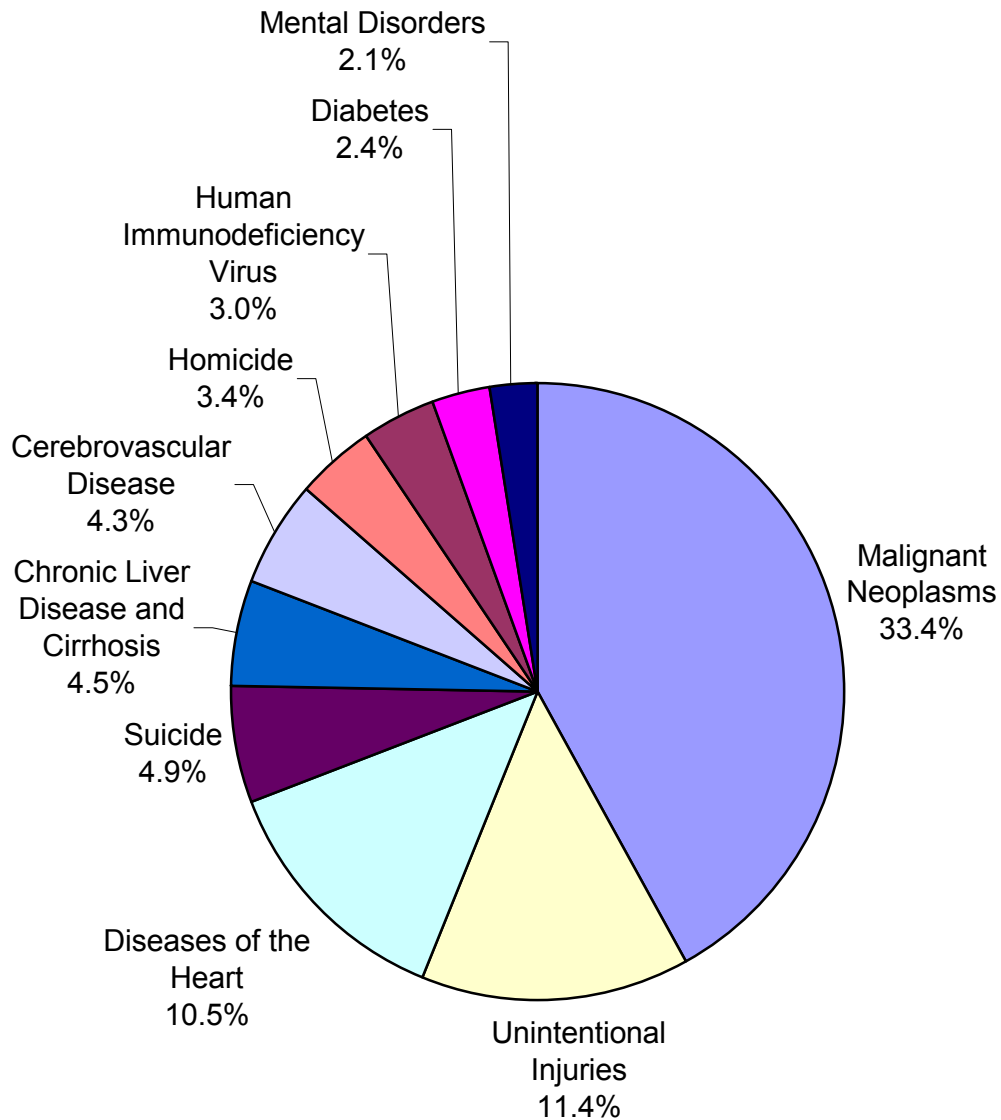


**Figure 4a. Ten Leading Causes of Death Among Male Baby Boomers  
California, 1990-1999**



Source: California Department of Health Services, Death Statistical Master Files.

**Figure 4b. Ten Leading Causes of Death Among Female Baby Boomers  
California, 1990-1999**



Source: California Department of Health Services, Death Statistical Master Files.

## Leading Causes of Death, by Race/Ethnicity

Table 5 indicates that HIV infection was the number one leading cause of death for African American/Black Baby Boomers for 1990-1999 (n=5,442; 17.7 percent); unintentional injuries were the leading cause for Hispanics (n=7,959; 18.7 percent) and for American Indians/Alaska Natives (n=261; 20.3 percent); and malignant neoplasms were the leading cause of death for Whites (n=24,887; 19.5 percent) and for Asians/Pacific Islanders (n=3,914; 33.7 percent).

The second leading causes were: diseases of the heart for African Americans/Blacks (n=4,684; 15.2 percent) and for Asians/Pacific Islanders (n=1,581; 13.6 percent); HIV for Whites (n=20,281; 15.9 percent); malignant neoplasms for Hispanics (n=6,465; 15.2 percent); and chronic liver disease and cirrhosis for American Indians/Alaska Natives (n=153; 11.9 percent).

Table 5. Ten Leading Causes of Death Among Baby Boomers by Race/Ethnicity, California 1990-1999

Cause of Death	African American/Black			American Indian/Alaska Native			Asian/Pacific Islander		
	Deaths <sup>1</sup>	Percent	Rank	Deaths <sup>1</sup>	Percent	Rank	Deaths <sup>1</sup>	Percent	Rank
Malignant Neoplasms	4,369	14.2%	3	138	10.7%	4	3,914	33.7%	1
Human Immunodeficiency Virus	5,442	17.7%	1	120	9.3%	5	629	5.4%	6
Unintentional Injuries	3,330	10.8%	4	261	20.3%	1	1,236	10.6%	3
Diseases of the Heart	4,684	15.2%	2	145	11.3%	3	1,581	13.6%	2
Suicide	721	2.3%	8	61	4.7%	8	715	6.2%	4
Homicide	3,297	10.7%	5	65	5.1%	7	571	4.9%	7
Chronic Liver Disease and Cirrhosis	896	2.9%	7	153	11.9%	2	249	2.1%	8
Cerebrovascular Disease	1,205	3.9%	6	42	3.3%	9	669	5.8%	5
Mental Disorders	648	2.1%	10	78	6.1%	6	81	0.7%	10
Diabetes	691	2.2%	9	21	1.6%	10	162	1.4%	9
All Baby Boomer Deaths	30,772	100.0%		1,285	100.0%		11,618	100.0%	

Cause of Death	Hispanic			White		
	Deaths <sup>1</sup>	Percent	Rank	Deaths <sup>1</sup>	Percent	Rank
Malignant Neoplasms	6,465	15.2%	2	24,887	19.5%	1
Human Immunodeficiency Virus	5,859	13.8%	3	20,281	15.9%	2
Unintentional Injuries	7,959	18.7%	1	19,018	14.9%	3
Diseases of the Heart	3,825	9.0%	5	16,017	12.6%	4
Suicide	1,653	3.9%	7	10,436	8.2%	5
Homicide	3,884	9.1%	4	3,443	2.7%	7
Chronic Liver Disease and Cirrhosis	3,300	7.7%	6	6,185	4.9%	6
Cerebrovascular Disease	1,459	3.4%	8	2,646	2.1%	9
Mental Disorders	1,401	3.3%	9	3,239	2.5%	8
Diabetes	843	2.0%	10	2,014	1.6%	10
All Baby Boomer Deaths	42,602	100.0%		127,443	100.0%	

SOURCE: California Department of Health Services, Center for Health Statistics, Death Statistical Master Files.

NOTES: <sup>1</sup> Number of deaths per ICD-9 for 1990-1998; ICD-10 comparability-adjusted number of deaths for 1999.

## Leading Causes of Death, by Race/Ethnicity and Sex

Table 6a. Ten Leading Causes of Death Among African American/Black Baby Boomers by Sex, California 1990-1999

Leading Causes of Death	African American/Black			African American/Black			African American/Black		
	Total			Male			Female		
	Deaths <sup>1</sup>	Percent	Rank	Deaths <sup>1</sup>	Percent	Rank	Deaths <sup>1</sup>	Percent	Rank
Human Immunodeficiency Virus	5,442	17.7%	1	4,685	23.0%	1	757	7.3%	4
Diseases of the Heart	4,684	15.2%	2	3,063	15.1%	2	1,620	15.5%	2
Malignant Neoplasms	4,369	14.2%	3	1,940	9.5%	5	2,429	23.3%	1
Unintentional Injuries	3,330	10.8%	4	2,365	11.6%	4	965	9.3%	3
Homicide	3,297	10.7%	5	2,666	13.1%	3	631	6.1%	5
Cerebrovascular Disease	1,205	3.9%	6	597	2.9%	6	609	5.8%	6
Chronic Liver Disease and Cirrhosis	896	2.9%	7	558	2.7%	8	338	3.2%	7
Suicide	721	2.3%	8	562	2.8%	7	159	1.5%	-
Diabetes	691	2.2%	9	369	1.8%	10	323	3.1%	8
Mental Disorders	648	2.1%	10	451	2.2%	9	197	1.9%	10
Chronic Obstructive Pulmonary Disease	479	1.6%	-	246	1.2%	-	233	2.2%	9
Total - All Causes of Death	30,772	100.0%		20,348	100.0%		10,424	100.0%	

SOURCE: California Department of Health Services, Center for Health Statistics, Death Statistical Master Files.

NOTES: <sup>1</sup> Number of deaths per ICD-9 for 1990-1998; ICD-10 comparability-adjusted number of deaths for 1999.

While HIV infection was the leading cause of death for African American/Black male Baby Boomers, the leading cause for African American/Black female Baby Boomers was malignant neoplasms (Table 6a). Mental disorders emerged as the ninth leading cause for African American/Black males and the tenth leading cause for females, while chronic obstructive pulmonary disease (COPD) emerged as the ninth leading cause for African American/Black female Baby Boomers.

Table 6b. Ten Leading Causes of Death Among American Indian/Alaska Native Baby Boomers by Sex, California 1990-1999

Leading Causes of Death	American Indian/Alaska Native			American Indian/Alaska Native			American Indian/Alaska Native		
	Total			Male			Female		
	Deaths <sup>1</sup>	Percent	Rank	Deaths <sup>1</sup>	Percent	Rank	Deaths <sup>1</sup>	Percent	Rank
Unintentional Injuries	261	20.3%	1	193	22.1%	1	69	16.8%	2
Chronic Liver Disease and Cirrhosis	153	11.9%	2	95	10.9%	4	59	14.4%	3
Diseases of the Heart	145	11.3%	3	112	12.8%	2	33	8.0%	4
Malignant Neoplasms	138	10.7%	4	66	7.5%	5	72	17.6%	1
Human Immunodeficiency Virus	120	9.3%	5	111	12.7%	3	9	2.2%	10
Mental Disorders	78	6.1%	6	49	5.6%	7	29	7.1%	5
Homicide	65	5.1%	7	55	6.3%	6	10	2.4%	9
Suicide	61	4.7%	8	42	4.8%	8	19	4.6%	6
Cerebrovascular Disease	42	3.3%	9	25	2.9%	9	18	4.4%	7
Diabetes	21	1.6%	10	7	0.8%	-	14	3.4%	8
Pneumonia and Influenza	16	1.2%	-	9	1.0%	10	7	1.7%	-
Total - All Causes of Death	1,285	100.0%		875	100.0%		410	100.0%	

SOURCE: California Department of Health Services, Center for Health Statistics, Death Statistical Master Files.

NOTES: <sup>1</sup> Number of deaths per ICD-9 for 1990-1998; ICD-10 comparability-adjusted number of deaths for 1999.

For American Indian/Alaska Native Baby Boomers the leading cause of death for males was unintentional injuries, while for females it was malignant neoplasms (Table 6b). Pneumonia and influenza emerged as the tenth leading cause for American Indian/Alaska Native males.

Table 6c. Ten Leading Causes of Death Among Asian/Pacific Islander Baby Boomers by Sex, California 1990-1999

Leading Causes of Death	Asian/Pacific Islander			Asian/Pacific Islander			Asian/Pacific Islander		
	Total			Male			Female		
	Deaths <sup>1</sup>	Percent	Rank	Deaths <sup>1</sup>	Percent	Rank	Deaths <sup>1</sup>	Percent	Rank
Malignant Neoplasms	3,914	33.7%	1	1,782	25.1%	1	2,132	47.1%	1
Diseases of the Heart	1,581	13.6%	2	1,236	17.4%	2	345	7.6%	3
Unintentional Injuries	1,236	10.6%	3	805	11.4%	3	431	9.5%	2
Suicide	715	6.2%	4	502	7.1%	5	213	4.7%	5
Cerebrovascular Disease	669	5.8%	5	362	5.1%	7	307	6.8%	4
Human Immunodeficiency Virus	629	5.4%	6	582	8.2%	4	47	1.0%	10
Homicide	571	4.9%	7	410	5.8%	6	161	3.6%	6
Chronic Liver Disease and Cirrhosis	249	2.1%	8	207	2.9%	8	42	0.9%	-
Diabetes	162	1.4%	9	93	1.3%	9	69	1.5%	7
Pneumonia and Influenza	139	1.2%	10	77	1.1%	10	62	1.4%	8.5
Chronic Obstructive Pulmonary Disease	129	1.1%	-	67	0.9%	-	62	1.4%	8.5
Total - All Causes of Death	11,618	100.0%		7,089	100.0%		4,529	100.0%	

SOURCE: California Department of Health Services, Center for Health Statistics, Death Statistical Master Files.

NOTES: <sup>1</sup> Number of deaths per ICD-9 for 1990-1998; ICD-10 comparability-adjusted number of deaths for 1999.

Malignant neoplasms were the leading cause of death for both male and female Asian/Pacific Islander Baby Boomers (Table 6c). Pneumonia and influenza were tied with COPD as the eighth and ninth leading causes of death for Asian/Pacific Islander female Baby Boomers.

Table 6d. Ten Leading Causes of Death Among Hispanic/Latino Baby Boomers by Sex, California 1990-1999

Leading Causes of Death	Hispanic/Latino			Hispanic/Latino			Hispanic/Latino		
	Total			Male			Female		
	Deaths <sup>1</sup>	Percent	Rank	Deaths <sup>1</sup>	Percent	Rank	Deaths <sup>1</sup>	Percent	Rank
Unintentional Injuries	7,959	18.7%	1	6,659	21.0%	1	1,300	11.9%	2
Malignant Neoplasms	6,465	15.2%	2	2,794	8.8%	5	3,671	33.7%	1
Human Immunodeficiency Virus	5,859	13.8%	3	5,459	17.2%	2	400	3.7%	7
Homicide	3,884	9.1%	4	3,400	10.7%	3	484	4.4%	6
Diseases of the Heart	3,825	9.0%	5	2,911	9.2%	4	914	8.4%	3
Chronic Liver Disease and Cirrhosis	3,300	7.7%	6	2,759	8.7%	6	542	5.0%	5
Suicide	1,653	3.9%	7	1,416	4.5%	7	236	2.2%	9
Cerebrovascular Disease	1,459	3.4%	8	879	2.8%	9	581	5.3%	4
Mental Disorders	1,401	3.3%	9	1,180	3.7%	8	221	2.0%	10
Diabetes	843	2.0%	10	537	1.7%	10	306	2.8%	8
Total - All Causes of Death	42,602	100.0%		31,694	100.0%		10,908	100.0%	

SOURCE: California Department of Health Services, Center for Health Statistics, Death Statistical Master Files.

NOTES: <sup>1</sup> Number of deaths per ICD-9 for 1990-1998; ICD-10 comparability-adjusted number of deaths for 1999.

For Hispanic/Latino Baby Boomers, the leading cause of death for males was unintentional injuries and for females it was malignant neoplasms (Table 6d). The second leading cause for males was HIV infection, while for females it was unintentional injuries.

Table 6e. Ten Leading Causes of Death Among White Baby Boomers by Sex, California 1990-1999

Leading Causes of Death	White Total			White Male			White Female		
	Deaths <sup>1</sup>	Percent	Rank	Deaths <sup>1</sup>	Percent	Rank	Deaths <sup>1</sup>	Percent	Rank
Malignant Neoplasms	24,887	19.5%	1	11,673	13.1%	4	13,214	34.7%	1
Human Immunodeficiency Virus	20,281	15.9%	2	19,545	21.9%	1	736	1.9%	10
Unintentional Injuries	19,018	14.9%	3	14,427	16.1%	2	4,591	12.0%	2
Diseases of the Heart	16,017	12.6%	4	12,189	13.6%	3	3,829	10.0%	3
Suicide	10,436	8.2%	5	7,939	8.9%	5	2,498	6.6%	4
Chronic Liver Disease and Cirrhosis	6,185	4.9%	6	4,261	4.8%	6	1,924	5.0%	5
Homicide	3,443	2.7%	7	2,543	2.8%	7	900	2.4%	7
Mental Disorders	3,239	2.5%	8	2,360	2.6%	8	879	2.3%	8
Cerebrovascular Disease	2,646	2.1%	9	1,379	1.5%	9	1,266	3.3%	6
Diabetes	2,014	1.6%	10	1,180	1.3%	10	834	2.2%	9
Total - All Causes of Death	127,443	100.0%		89,338	100.0%		38,105	100.0%	

SOURCE: California Department of Health Services, Center for Health Statistics, Death Statistical Master Files.

NOTES: <sup>1</sup> Number of deaths per ICD-9 for 1990-1998; ICD-10 comparability-adjusted number of deaths for 1999.

For White Baby Boomers, the leading cause for males was HIV infection while for females it was malignant neoplasms (Table 6e). The second leading cause of death for both males and females was unintentional injuries, and the third leading cause for both sexes was heart disease.

### **Trends in Death Rates For Baby Boomers, by Race/Ethnicity and Sex**

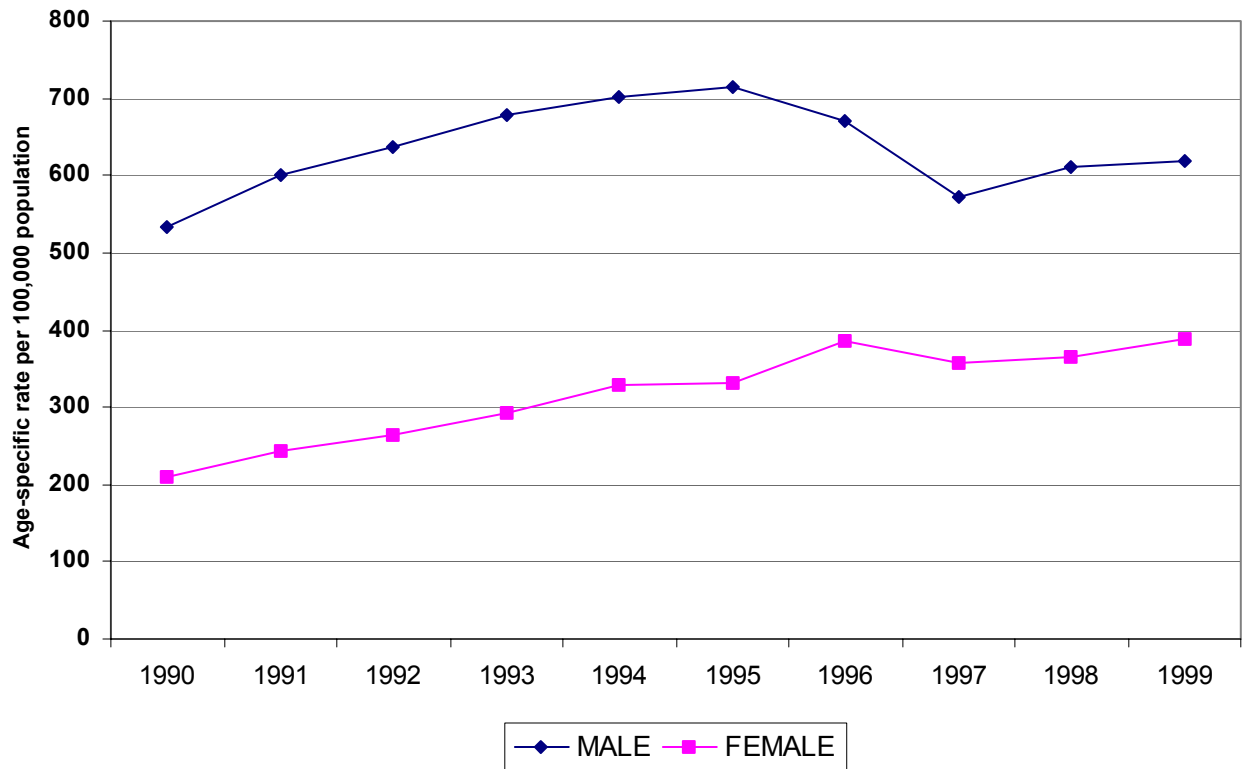
Age-specific death rates for all causes of death by sex for each of the five major racial and ethnic populations are shown in Table 7 and Figures 7a-7e.

Table 7. Death Rates for All Causes of Death Among Baby Boomers by Race/Ethnicity and Sex, California 1990-1999

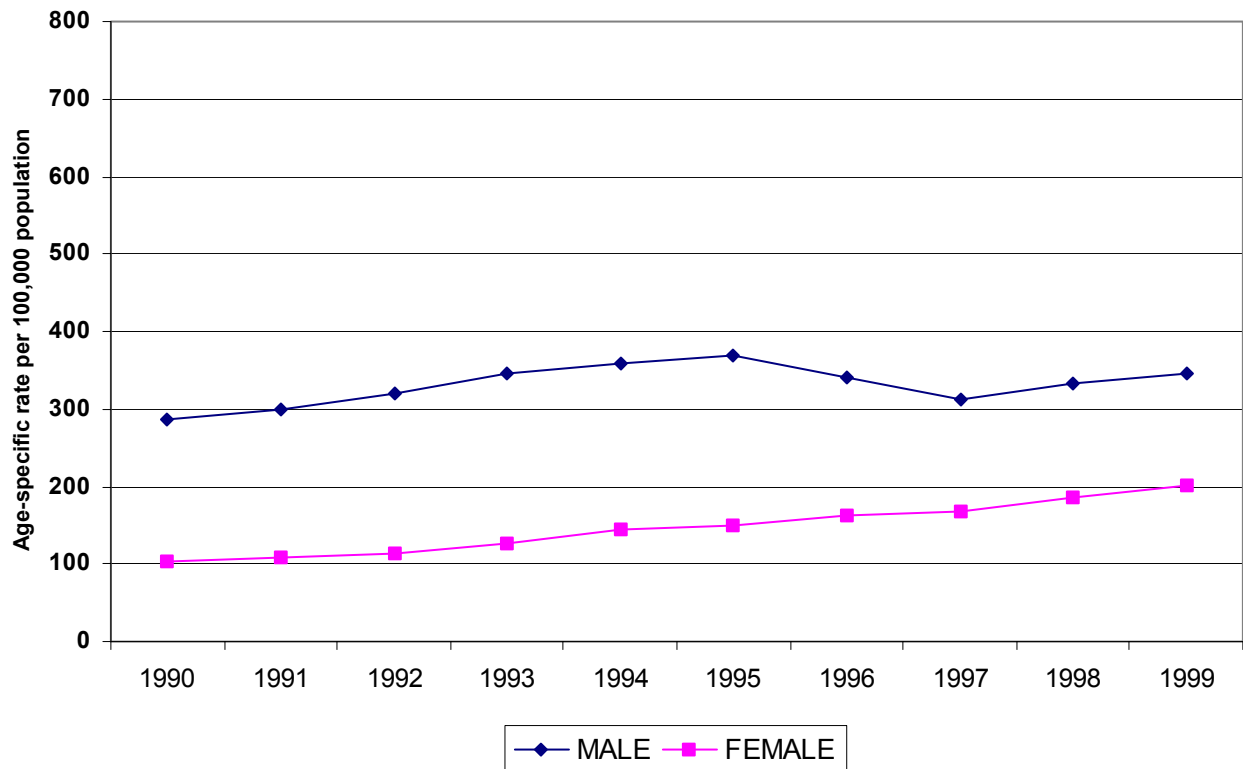
Year	African American/Black		American Indian/Alaska Native		Asian/Pacific Islander		Hispanic/Latino		White	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1990	533.0	209.6	223.8	86.4	104.0	52.5	242.3	68.4	285.6	103.6
1991	600.8	244.1	208.7	61.8	112.1	68.1	234.0	72.8	299.4	107.4
1992	635.8	263.1	189.4	78.8	114.4	65.4	267.5	79.6	319.4	113.9
1993	678.1	293.4	232.3	77.9	127.4	73.5	280.9	85.3	344.8	127.3
1994	701.0	328.3	188.5	79.8	134.8	73.6	285.0	89.6	359.9	143.4
1995	715.2	330.9	263.1	71.6	137.5	81.3	295.5	100.0	368.7	150.7
1996	669.9	386.5	201.0	89.5	147.2	78.4	279.3	110.6	339.6	161.4
1997	572.3	356.4	201.6	105.3	142.0	94.0	259.2	112.3	313.0	168.5
1998	611.9	365.7	199.6	106.3	156.2	90.2	251.1	120.0	332.7	186.1
1999	619.7	387.9	162.8	96.7	156.8	108.4	267.4	129.4	346.8	202.2

SOURCES: California Department of Health Services, Center for Health Statistics, Death Statistical Master Files, 1990-1999;  
California Department of Finance, Demographic Research Unit, *Race/Ethnic Population with Age and Sex Detail, 1990-1999*.

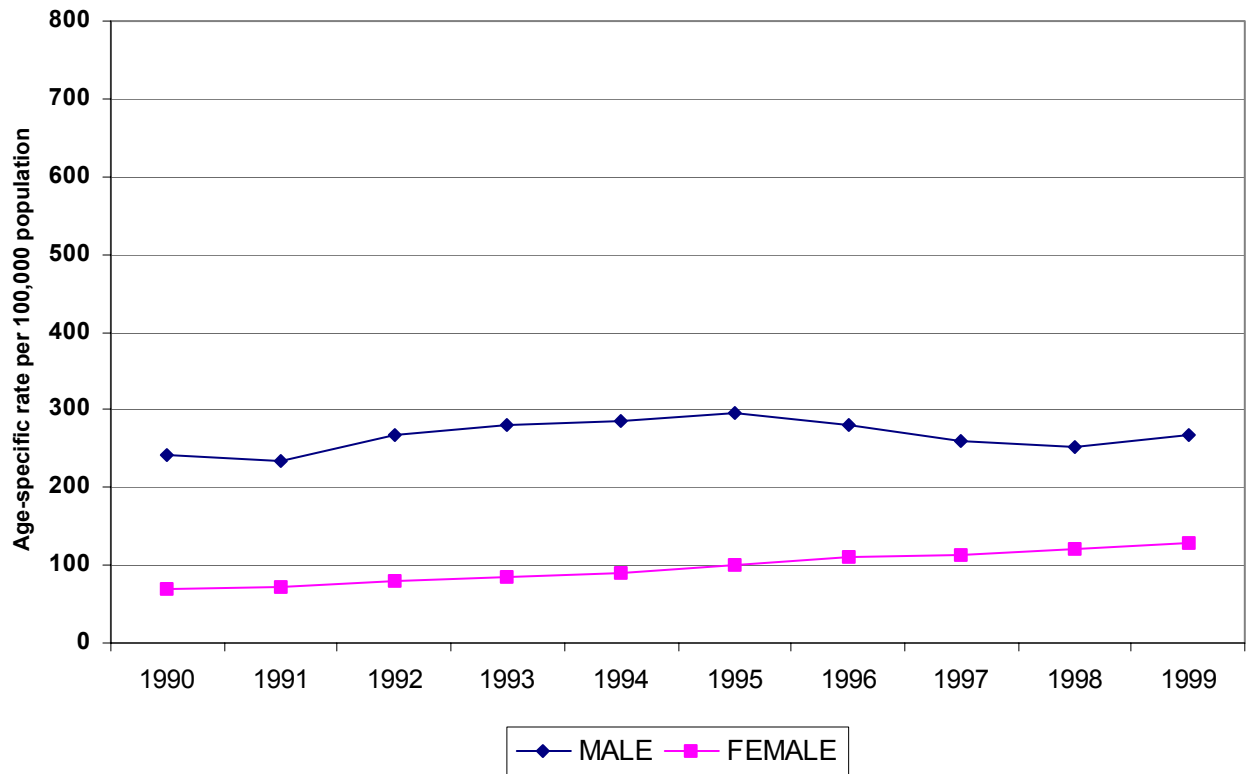
**Figure 7a. Trends in Death Rates Among African American/Black Baby Boomers**  
**All Causes of Death, By Gender**  
**California, 1990-1999**



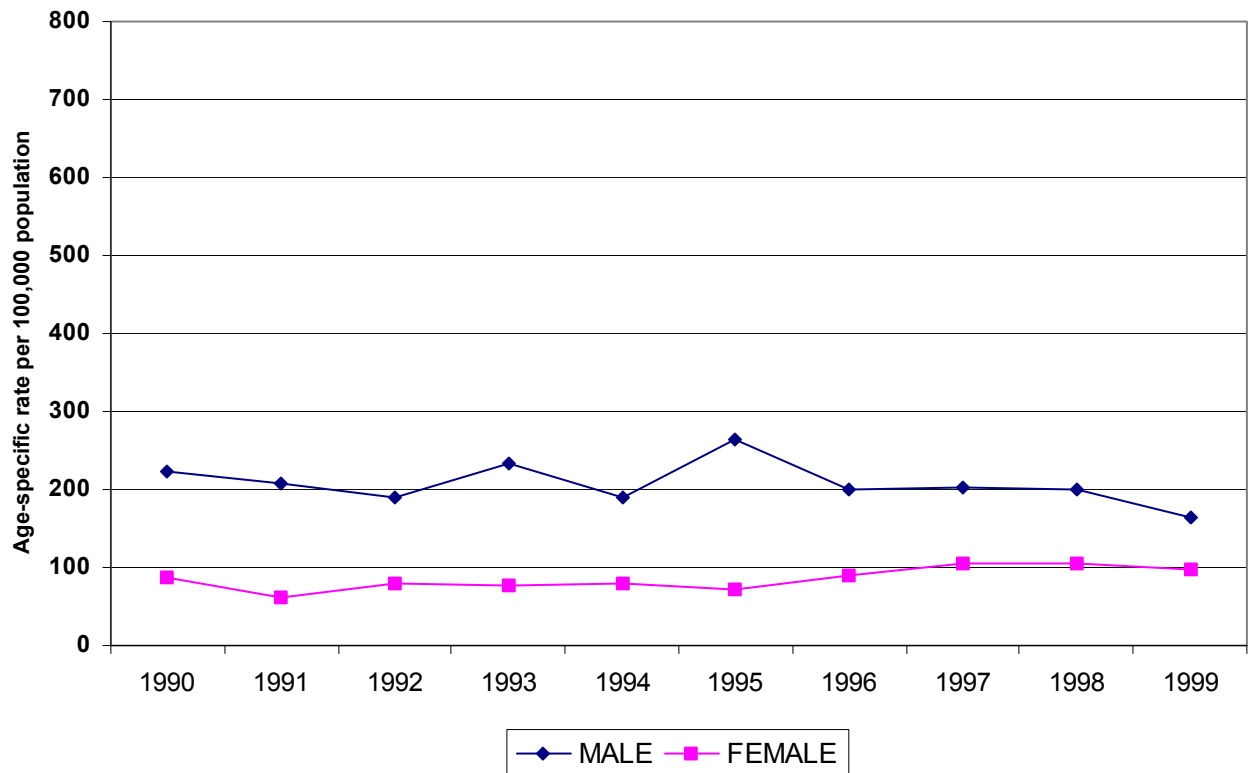
**Figure 7b. Trends in Death Rates Among White Baby Boomers**  
**All Causes of Death, By Gender**  
**California, 1990-1999**



**Figure 7c. Trends in Death Rates Among Hispanic/Latino Baby Boomers**  
**All Causes of Death, By Gender**  
**California, 1990-1999**

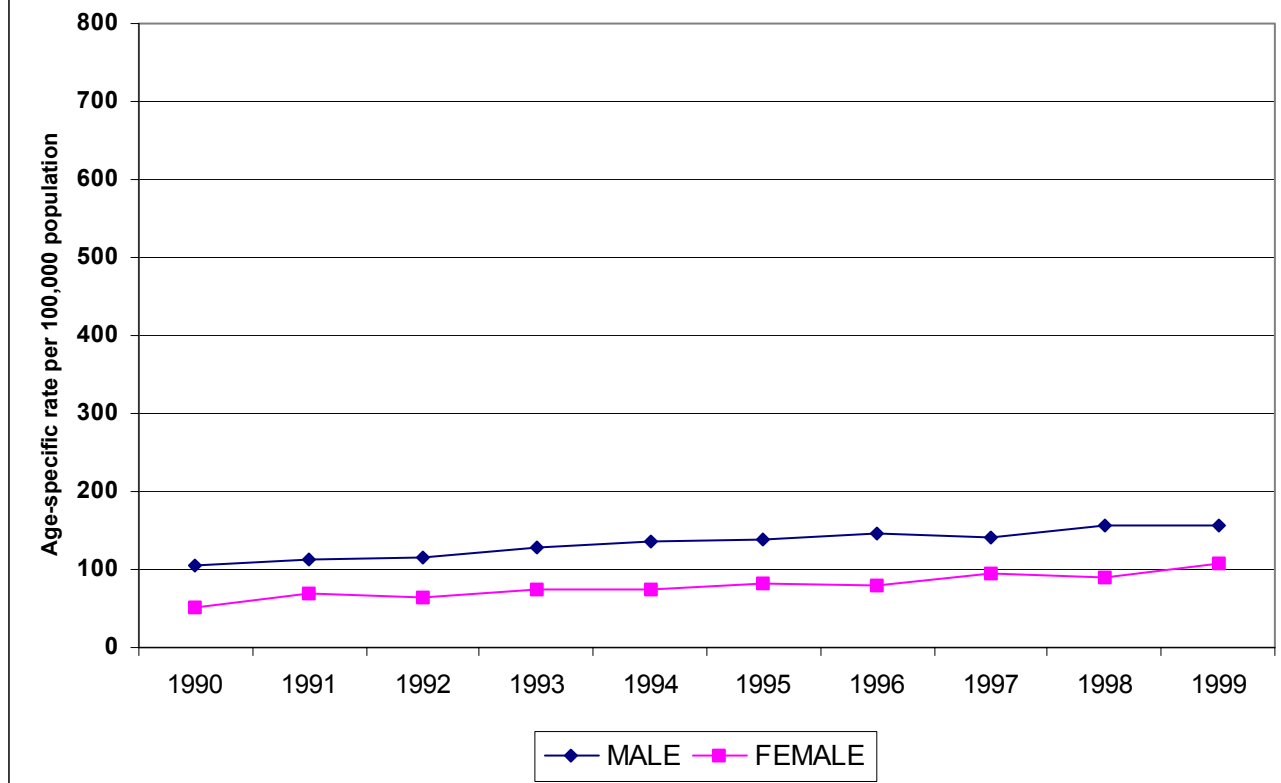


**Figure 7d. Trends in Death Rates Among American Indian/Alaska Native Baby Boomers**  
**All Causes of Death, By Gender**  
**California, 1990-1999**





**Figure 7e. Trends in Death Rates Among Asian/Pacific Islander Baby Boomers  
All Causes of Death, By Gender  
California, 1990-1999**



Sources: California Department of Health Services, Death Statistical Master Files; California Department of Finance, *Race/Ethnic Population with Age and Sex Detail, 1990-1999*.

## Conclusion

The mortality profile of California's Baby Boomer population for 1990-1999 shows substantial differences from the profile developed for the 1980's, most notably in the increase of chronic disease deaths from causes such as cancer and heart disease and of infectious disease deaths from HIV. Deaths from malignant neoplasms have replaced unintentional injuries as leading causes of death for this age cohort, although unintentional injury deaths remain the number one leading cause of death for male Baby Boomers, as well as for Hispanic and American Indian/Alaska Native Baby Boomers.

These findings imply that chronic and infectious disease prevention efforts may need to enhance programs that specifically target the Baby Boomer population, as well as programs targeting diseases and causes of death that are emerging as leading causes of death for Baby Boomers (e.g., mental disorders such as those caused by Alzheimer's disease and substance abuse).

Although the Baby Boomer population was not specifically targeted in the *Healthy People 2000* objectives, a case could be made to establish a *Healthy People 2010* Work Group similar to the one established for Adolescent Health to coordinate efforts and provide inputs to a health promotion and disease prevention agenda for Baby Boomers.<sup>18-19</sup>

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